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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/542,460	04/04/2000	Tatsuro Yamazaki	862.C1883	6080

5514 7590 08/11/2004

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NEW YORK, NY 10112

EXAMINER

LAO, LUN YI

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 08/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/542,460

Applicant(s)

YAMAZAKI ET AL.

Examiner

Lao Y Lun

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 7-8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikarashi et al(5,027,036) in view of Takao et al (JP 05-150743).

As to claims 1-2, 7-8 and 12-13, Ikarashi et al teach an electron-emitting device comprising rate conversion means(12) for converting a rate of a display(see figures 1, 4 and column 3, lines 41-63). Ikarashi et al teach the output signal from the rate conversion means(12) is a signal having maximum time interval during a display period so as not to degrade linearity of a luminance characteristic of the fluorescent substances(see figures 2, 4; column 5, lines 3-25 and lines 62-68; and column 6, lines 1-14).

Ikarashi et al fail to point out a frame rate.

Takao et al teach an electron-emitting device for compensating a decrease in light by increasing the display frame rate(see figure 1 and constitution). It would have been obvious to have modified Ikarashi et al with the

Art Unit: 2673

teaching of Takao et al, since Ikarashi et al and Takao et al both teach an EL display and a frame frequency is a common term for measuring a display period.

3. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikarashi et al(5,027,036) in view of Takao et al (JP 05-150743) and Okuno et al(6,288,745).

Ikarashi et al as modified fail to disclose a display system for converting an interlaced scanning into a non-interlaced scanning.

Okuno et al teach a display system for converting an interlaced format into a non-interlaced format(see column 1, lines 4-12 and column 2, lines 56-58). It would have been obvious to have modified Ikarashi et al as modified with the teaching of Okuno et al, so an interlaced display data could be presented on non-interlaced display.

4. Claims 4-6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikarashi et al(5,027,036) in view of Takao et al (JP 05-150743) and Fujii(6,008,588).

Ikarashi et al as modified fail to disclose a pulse width modulation signal.

Fujii teaches an EL display comprising means for performing pulse width modulation by a signal of frame rate is changed(see figures 2-7, 10; column 15, lines 13-68 and column 16, lines 1-34). It would have been obvious to have modified Ikarashi et al as modified with the teaching of Fujii, so provide a gray scale display to a user.

Art Unit: 2673

5. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikarashi et al(5,027,036) in view of Takao et al (JP 05-150743) and Suzuki et al(5,155,416).

Ikarashi et al as modified fail to disclose a voltage applied to electron for accelerating electrons is higher than 5KV.

Suzuki et al teach an electron-emitting display device for applying 10KV to an electrode(14)(see figures 1, 4 and column 5, lines 31-50). It would have been obvious to have modified Ikarashi et al as modified with the teaching of Suzuki et al, since Ikarashi et al and Suzuki et al both teach an electron-emitting display and so as to attract electrons emitting by filed effect elements.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Amano(4,021,607) teaches the duration of driving pulses are varied in response to variations in sequentially sampled level of input video signals.

Takagi(6,472,946) teaches a modulation circuit for a display.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Art Unit: 2673

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

August 7, 2004

  
**Lun-yi Lao**  
**Primary Examiner**